



Boletim Especial de Aeronavegabilidade (*Special Airworthiness Bulletin*)

ATA: 30 - Ice and Rain Protection.

Subject: Electrical wiring terminations at the receptacles of Pitot #1, Pitot #2, Pitot #3, TAT #1, and TAT #2 relays.

BEA: 2017-03

Date: December 20, 2017

Introduction

This Special Airworthiness Bulletin (BEA) advises you, owners and operators of Embraer S.A. Model EMB-145, EMB-145ER, EMB-145EU, EMB-145EP, EMB-145LR, EMB145MR, EMB-145LU, EMB-135ER, EMB-135BJ, EMB-135LR, EMB-145MP, EMB-145MK, EMB-135KE, EMB135KL, and EMB-145XR airplanes, to pay attention to the electrical wiring terminations at the receptacles of Pitot #1, Pitot #2, Pitot #3, TAT #1, and TAT #2 relays when performing the General Visual Inspection (GVI) specified in Maintenance Review Board Report (MRBR) Task 53-Z223-214-001-A00.

This bulletin is informative, and the recommendations are not mandatory. Until this time, there is no airworthiness concern that would warrant an Airworthiness Directive (AD) according to Regulamento Brasileiro de Aviação Civil (RBAC) nº 39.

Background

The ANAC has issued Airworthiness Directives (ADs) 2005-08-04R1 and 2007-11-04R1 in regards to the socket contacts of Pitot #1, Pitot #2, Pitot #3, TAT #1, and TAT #2 current sensor relays, due to occurrences of bad contact and smoke into the flight deck. These ADs require inspection of the relays, receptacles, and the replacement of certain socket contacts with improved ones having Part Number M39029/92-536. The ANAC AD 2005-08-04R1 also requires to reroute and to replace the direct-vision windowsill drain hoses, in the area near the relay boxes, with others made of improved material. Following the issuance of the ADs, further in service experience has shown cases of bad contact and heat damages on the wiring terminations at the receptacle of Pitot #3 (K0058) relay.

Recommendations

We recommend that, when performing the GVI per MRBR EZAP-derived EWIS task 53-Z223-214-001-A00 (AMM task 05-20-14-200-801-A), you give attention to the electrical wires terminations at the receptacle of Pitot #1 (K0053), TAT #1 (K0064), Pitot #2 (K0054), TAT #2 (K0494), and Pitot #3 (K0057) current sensor relays, and Pitot #3 (K0058) relay, for degradation (heat damages, discoloration), insulation dryness, and cracking. Any discrepancies found shall be corrected before the airplane is returned to service.

References

- 1) REPORT No. 145-MS-079 - ELECTRICAL WIRING INTERCONNECTION SYSTEM – FAA PART 26 AND ANAC RBAC N° 26 SUBPARTE B – SOURCE DOCUMENT.
- 2) SWPM-145/() – STANDARD WIRING PRACTICES MANUAL – CHAPTER 20-00-03 – STANDARD PRACTICES.
- 3) SNL 145-30-0016 - PITOT 3 CURRENT SENSOR - REPLACEMENT OF SOCKET PIN.
- 4) SNL 145-30-0016 - PITOT 3 CURRENT SENSOR - REPLACEMENT OF SOCKET PIN.
- 5) SB 145-30-0041 – ICE AND RAIN PROTECTION – REPLACEMENT OF THE DIRECT-VISION WINDOWSILL DRAIN HOSES.
- 6) SB 145-30-0050 - ICE AND RAIN PROTECTION – REPLACEMENT OF THE SOCKET CONTACTS OF THE PITOT 3 CURRENT SENSOR RELAY.
- 7) SB 145-30-0052 - ICE AND RAIN PROTECTION – REPLACEMENT OF SOCKET CONTACTS OF PITOT 1/2 AND TAT 1/2 CURRENT SENSOR RELAY.
- 8) SB 145LEG-30-0011 - ICE AND RAIN PROTECTION – REPLACEMENT OF THE DIRECT-VISION WINDOWSILL DRAIN HOSES.
- 9) SB 145LEG-30-0017 - ICE AND RAIN PROTECTION – REPLACEMENT OF THE SOCKET CONTACTS OF THE PITOT 3 CURRENT SENSOR RELAY.
- 10) SB 145LEG-30-0019 - ICE AND RAIN PROTECTION – REPLACEMENT OF SOCKET CONTACTS OF PITOT 1/2 AND TAT 1/2 CURRENT SENSOR RELAY.

For Further Information Contact

Agência Nacional de Aviação Civil (ANAC)
Gerência Geral de Certificação de Produto Aeronáutico (GGCP)
Rua Laurent Martins, 209, Jardim Esplanada II
12242-431 – São José dos Campos – SP.
Telefone: (12) 3203-6641
E-mail: pac@anac.gov.br